Challenges in Teaching Survey Methods: Population Inference in the Social Sciences

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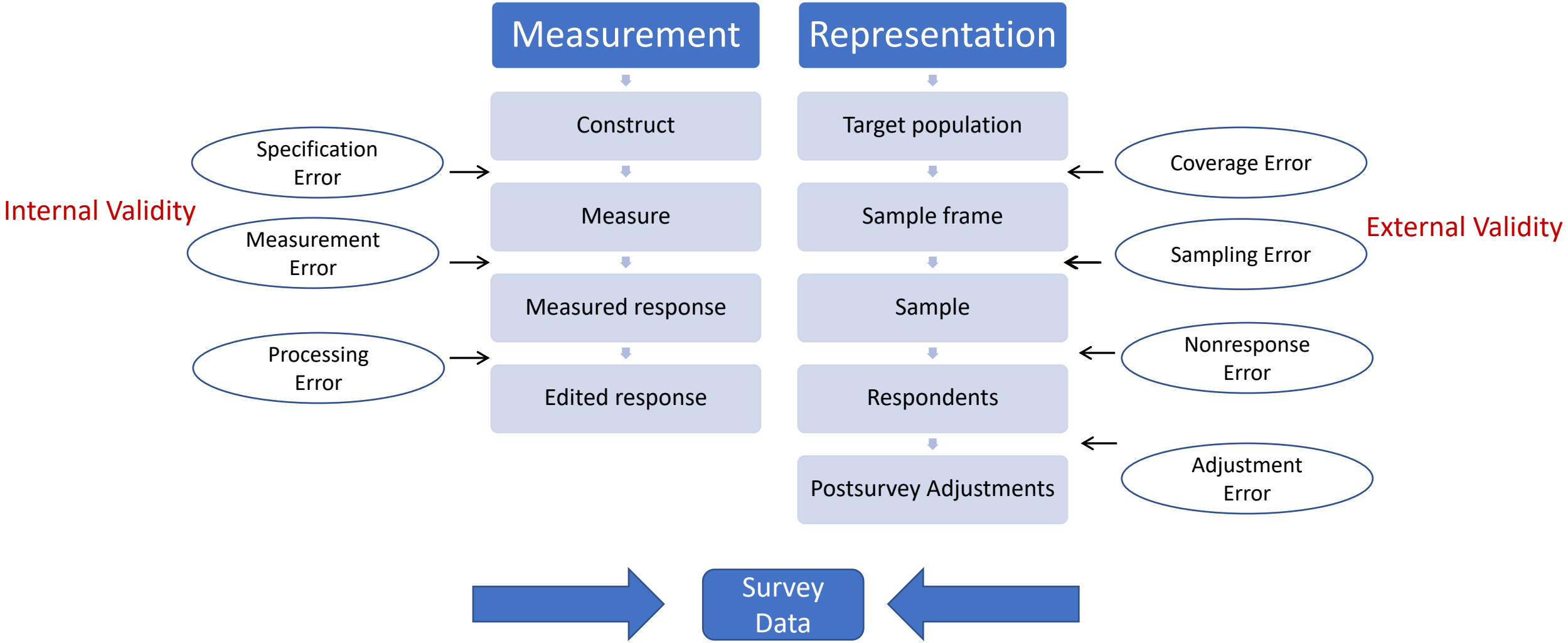
Overview of Talk

- Distinctions in inference between survey model and social science models
- Examples and challenges
- Finite populations inference versus superpopulation Inference
- Conceptualization and operationalization of constructs
- Design-based inference versus model-based inference
- Case Selection Approaches
- Experiments and Causal Inference
- Surveys in Mixed Methods Research

Total Survey Error



Based on Groves et. al. Survey Methodology (1989)

Inference in Social Sciences

- ”Goal is to make descriptive or explanatory **inferences about [about social and political life]** on the basis of empirical information about the world….That.. may involve ***descriptive inference*** – using observations about the world to learn unobserved facts. Or.. ***causal inference* –** learning about causal effects from the data observed. The **domain of inference may be restrictive in space and time** – voting behavior in American elections since 1960 or social movements in Eastern Europe since 1989, **or it can be extensive** – human behavior since the start of agriculture.”
  - King, Keohane, Verba (1994) *Designing Social Inquiry*

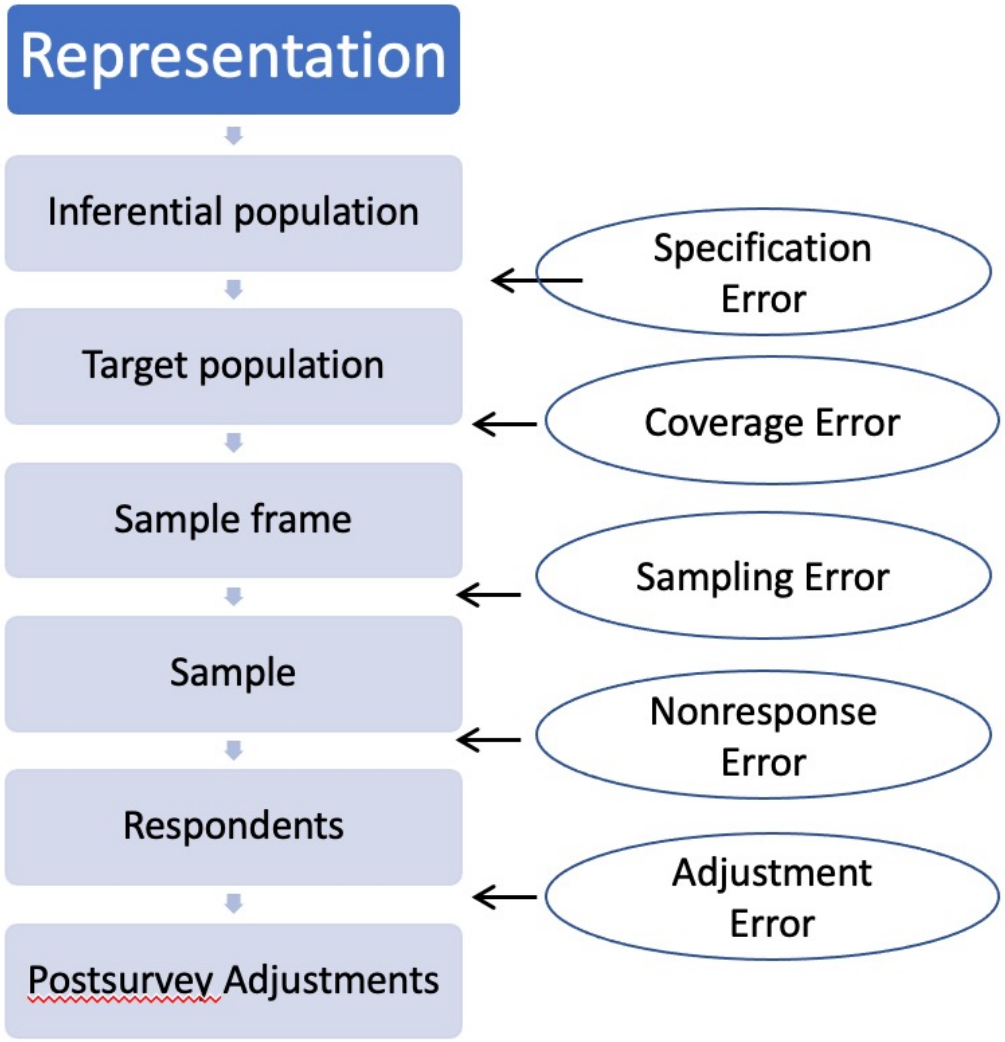
Examples from my students…..

- Disciplines
  - Political Science
  - Sociology
  - Economics
  - Psychology
  - Organizational Behavior
  - Etc.

- Populations and Topics of Inference:
  - Intergroup relations
  - Agents in Clientelistic Politics
  - Social Movements
  - Civil Wars
  - Hiring decisions in large organizations
  - Infrastructure Investment
  - Institutions to Facilitate Democratic Participation
  - Voters in Highly Polarized Settings
  - Demobilized guerrillas
  - Etc.

Finite Populations versus Infinite Superpopulations

- Encourage students to think "above" target population to inferential population
- Think about whether inferential population is finite or infinite
- Think about (and explicate) casual processes generating target population (i.e. superpopulation)

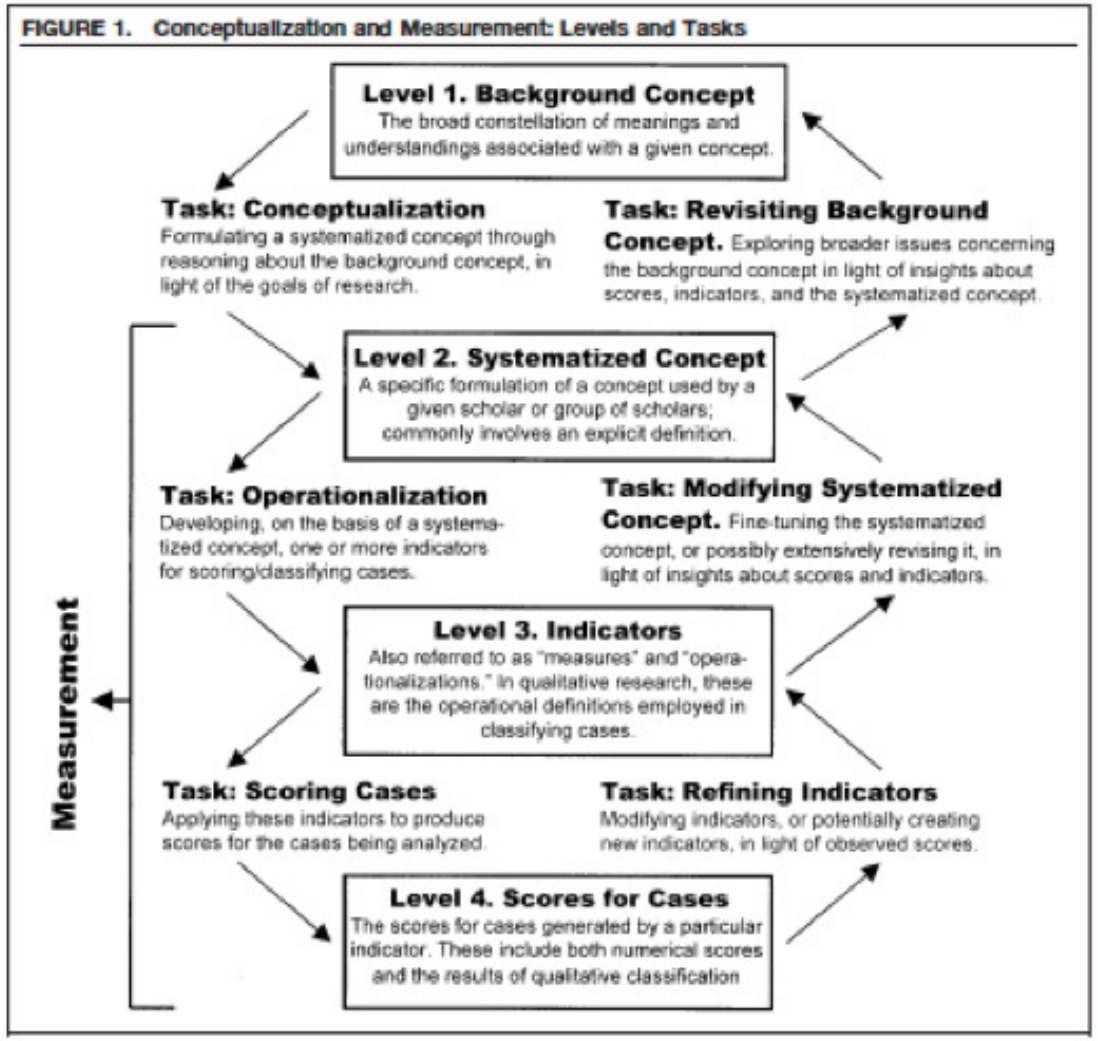


Construct Example: Intergroup Relations
Example Survey: Social distance from LGBTQ persons in US

Out-Groups	Measures	Settings
Racial and Ethnic Groups	Implicit bias	Countries
Religious Groups	Explicit bias	Communities
Nationalism	Behavioral measures	Cross-National
Linguistic differences	Hostility	Organizations
Tribal differences		Artificially induced group memberships
Political Parties		

Constructs

- Focus on both conceptualization and operationalization
- Work in non-survey areas (i.e. democratization / forms of government) often leads to rich insights
- Think of constructs as instances of broader background processes



Source: Adcock and Collier (2001)

Design Based Inference versus Model Based Inference

- Natural starting point: Most students have learned model-based inference (but maybe not named as such) (e.g. standard regression sequences)
- Leads nicely into considerations about designed data versus observational or secondary data
- Key Distinctions: Specification error versus sampling (survey) error
- Helps students think through non-probability versus probability samples
- (Often shifts student focus from descriptive inference to explanatory (causal) inference)

Case Selection Approaches

- Strengths in comparative politics, comparative sociology, organizational behavior, etc.
  - Examples: Most-similar, most-different; critical cases ; divergent cases
- Focuses on enumerating inferential population
- Ex ante: strengths and weaknesses of my target population
- (Why am I studying voters in Texas rather than Michigan? Etc.)
- Helps population researchers understand boundaries of research

Experiments and Causal Inference

- Survey Experiments
- Field Experiments
- Natural Experiments
  - Focus on inference to isolate effects of variables (different sort of reasoning)
  - Helps students think about issues of probability/nonprobability sampling (i.e. can a non-prob sample work for an experiment?)

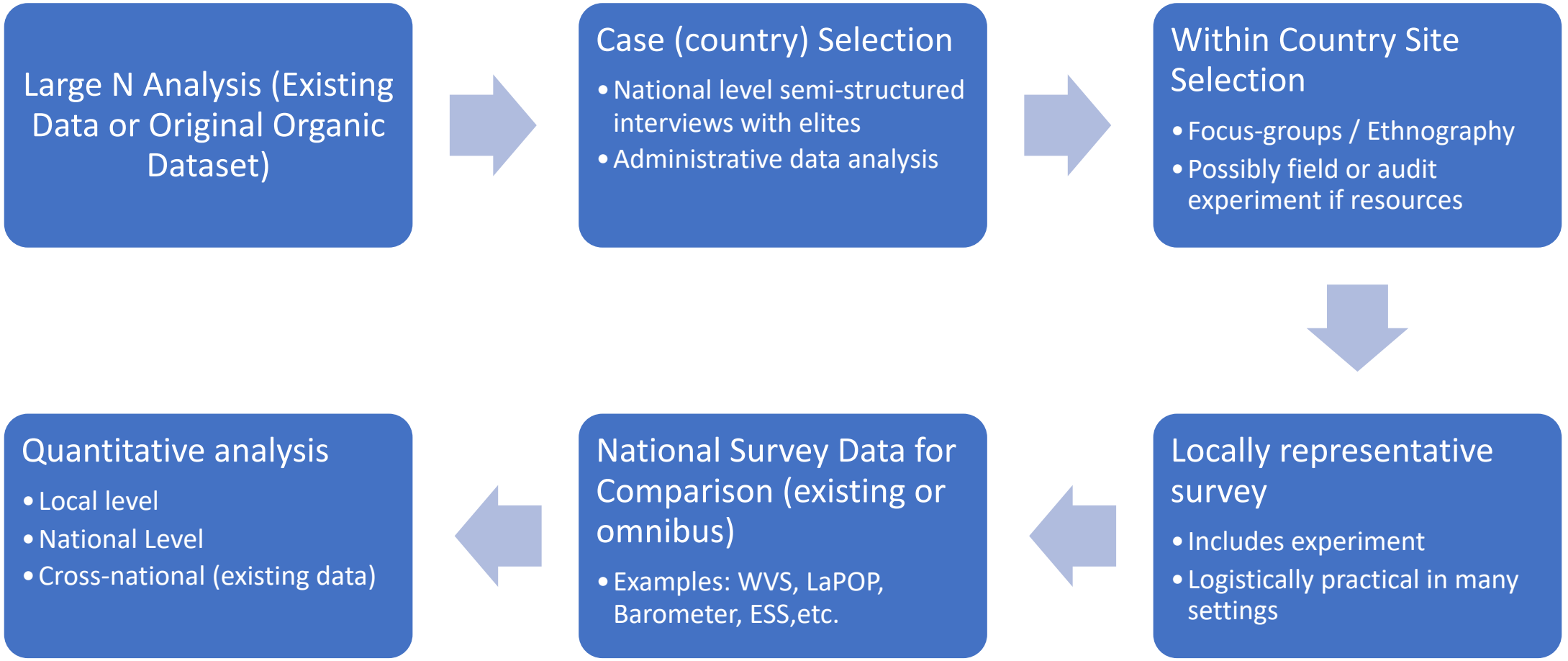
- Bonus Material: Lots of excellent population based surveys in field experiments (RCT's in Development Economics especially)
- Bonus Material: Logic of blocking and stratification is similar

Surveys in Mixed Methods Research

- Qualitative / Historical / Secondary (Quantitative)
- Case Selection
- Focus Groups / Ethnography
- Semi-structured interviews
- Survey Experiments (possibly non-probability)
- Field survey (probability or omnibus items)
- Follow-up interviews
- Quantitative analysis

Surveys in Mixed Methods Research

Example: Comparative Politics, International Relations, Development Economics



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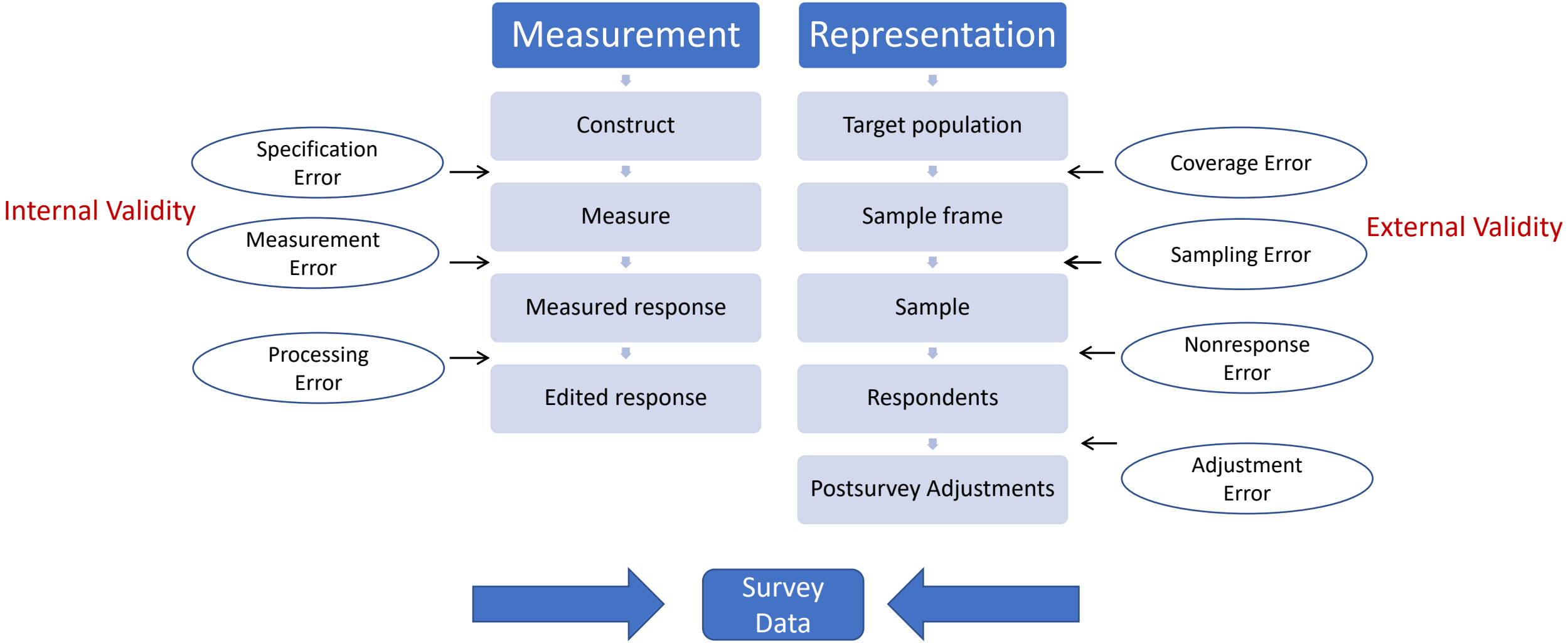

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Thank you for your time

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